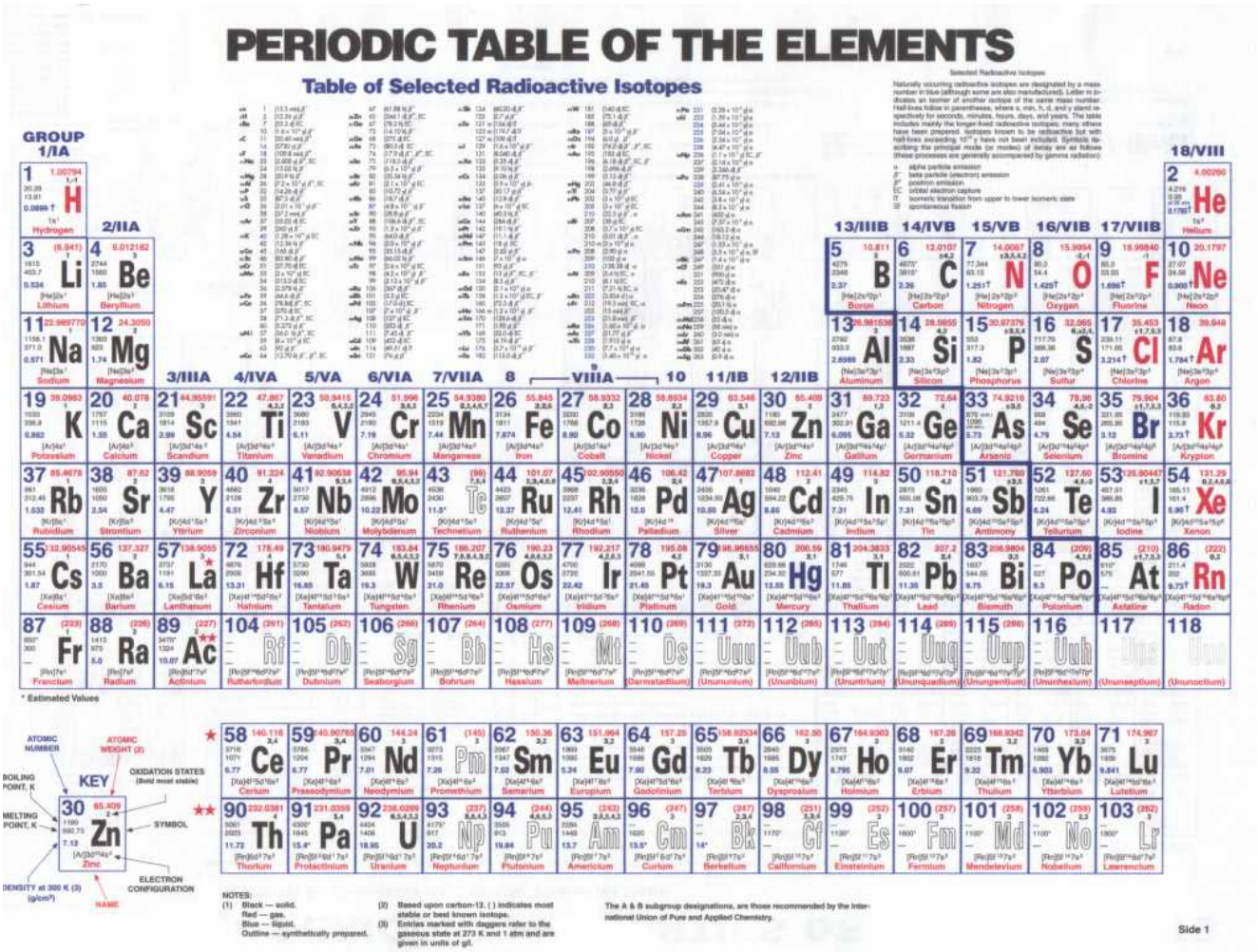
Elements & the Periodic Table

5.5


PERIODIC TABLE OF THE ELEMENTS
Table of Selected Radioactive Isotopes
GROUP 1/IA
2/IIA
3/IIIA
4/IVA
5/VA
6/VIA
7/VIIA
8
VIIIA
10
11/IB
12/IIB
13/IIIB
14/IVB
15/VB
16/VIB
17/VIIB
18/VIII
* Estimated Values
ATOMIC NUMBER
ATOMIC WEIGHT (2)
KEY
OXIDATION STATES (Bold most stable)
BOILING POINT, K
MELTING POINT, K
SYMBOL
DENSITY at 300 K (3) (g/cm³)
NAME
ELECTRON CONFIGURATION
NOTES:
(1) Black — solid. Red — gas. Blue — liquid. Outline — synthetically prepared.
(2) Based upon carbon-12. ( ) indicates most stable or best known isotope.
(3) Entries marked with daggers refer to the gaseous state at 273 K and 1 atm and are given in units of g/l.
The A & B subgroup designations, are those recommended by the International Union of Pure and Applied Chemistry.
Side 1

Groups-

Periods-

Metals-

Non-metals-

Metalloids-

Alkali metals-

Alkaline earth metals-

Noble Gases-

Transition metals-

Groups- vertical columns (aka families) -similar properties and same number of valence electrons

Metals- left side of staircase form cations

Non-metals- right side of staircase form anions

Metalloids- touch staircase ← not Al

Alkali metals- group 1

Alkaline earth metals- group 2

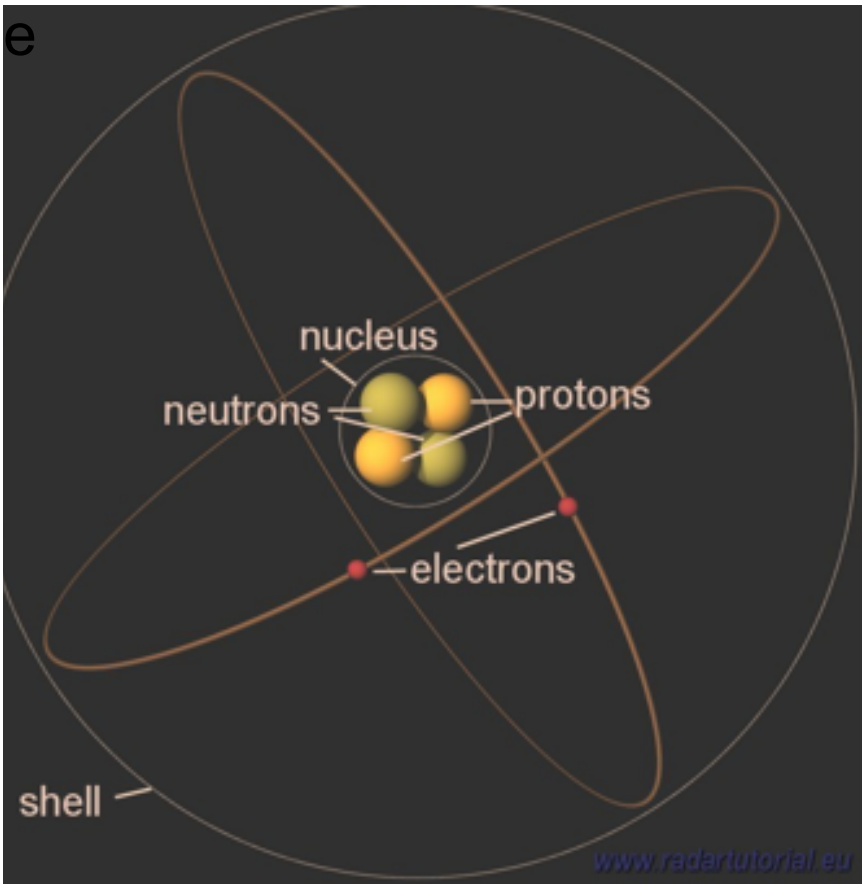
Halogens- group 17

Noble Gases- group 18

Transition metals- block in middle

Periods- rows on the table aka energy level

-electron shell or orbit


e
nucleus
neutrons
protons
electrons
shell
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Parts of The Atom

- An atom is composed of subatomic particles: Protons, Neutrons, and Electrons.
- Protons are positively charged particles located in the nucleus and along with the Neutrons make up the mass of an atom.
- Electrons have negligible mass, are negatively charged, and are found in the shells around the atom.